SPRING RIVER

WATERSHED

INVENTORY AND ASSESSMENT

This information is based on the

Spring River Watershed Inventory and Assessment

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EXECUTIVE SUMMARY

The Spring River Basin is located in southwest Missouri in Barry, Barton, Christian, Dade, Jasper, Lawrence, Newton, and Stone counties. The basin lies along the border between the Osage Plains and Springfield Plateau physiographic regions. The Spring River originates along the Barry-Lawrence county line south of Verona, flows west-northeast to its confluence with the North Fork of the Spring River east of Asbury in Jasper County and then southwest into Kansas and grand lake of the Cherokees in Oklahoma. Major tributaries within the basin are the North Fork of the Spring River, Center Creek, Turkey Creek, and Shoal Creek. Numerous smaller tributaries flow throughout the basin.

The Spring River Basin is essentially rural, and land use varies across the basin as a reflection of the transitional nature of its topography and relief. Forest lands are scattered; many are located along stream drainages. Mining has been an important part of the areas economy since the 1850s. Land use in the North Fork of the Spring River portion of the basin is approximately 85% agricultural (pasture and roe cropping) and 15% forested. Land use in the Spring River portion of the basin is estimated at 70% rowcrop and pasture and 30% forested. In the Center/Shoal Creek sub-basin, land use is approximately

52% rowcrop and pasture, 45% forest cover, and 3% mined lands. Major cities and towns in the basin include Joplin, Neosho, Carthage, Mount Vernon, Monett, Lamar, Sarcoxie, Aurora, and Webb City.

The Spring River watershed totals 2,271 square miles. Streams of order 5 or greater are Spring River, Center Creek, North Fork of the Spring River, Shoal Creek, Clear Creek, Dry fork, Jones Creek, Little North Fork of the Spring River, Pettis Creek, and Williams Creek. The total mileage of streams with permanent flow is 331 miles. Intermittent streams with permanent flow another 188 miles. Several losing stream reaches and numerous springs are also located in the basin.

Point source pollution affects many of the streams in the basin. Effluent from sewage treatment facilities enter streams at several locations. Numerous industries, mines, subdivisions, mobile home parks, and the Neosho Fish Hatchery all have permits to discharge treated wastes into streams.

Potential source of nonpoint source pollution in the basin include: runoff from mine tailing and active mining sites, dairy operations, poultry husbandry, sedimentation from erosion in disturbed watersheds, sludge application from sewage treatment facilities, seepage from septic tanks, and runoff from urban areas. A health advisory, recommending against the consumption of fish from the Spring river from Verona to Hoberg because of dioxin contamination from runoff at manufacturing plant, was issued during the late 1980's, but was lifted in 1993. There are currently no advisories listed for the basin.

The Spring River Basin encompasses two major aquatic community divisions, the Ozark-Neosho and the Prairie-Neosho. The Ozark-Neosho Division includes the entire basin except the northern tributaries of the Spring River from (and including) the North Fork of the Spring River to the Kansas state line. The Prairie-Neosho Division includes the Little North Fork and North Fork of the Spring River drainages, excluding Buck Branch and lower Dry Fork.

Eighty-six fish species and thirty-five mussel species have been collected in the basin. Common sportfish include smallmouth bass, largemouth bass, spotted bass, whit crappie, rock bass, channel catfish, and rainbow trout. There are several state or federally listed threatened and endangered species, including the Ozark cavefish, Neosho madtom, redfin darter, Arkansas darter, western fanshell, Neosho mucket, bluntface shiner, and western slim minnow.

Stream habitat quality is far to good throughout most of the basin. Some areas, including portions of the Capps Creek subbasin, suffer from a severe lack of riparian vegetation. The lack of adequate riparian corridors, effects of runoff from mined areas, excessive nutrient loading, streambank erosion, excessive runoff and erosion, and the effects of in stream activities suck as gravel mining are among the problems observed in the basin. Grazing practices along many stream contribute to streambank instability, nutrient loading, and poor riparian conditions. Increased timber clearing and higher runoff associated with urbanization in the basin also impact stream habitat quality.

Our major goals for the basin are improved water quality, better riparian and aquatic habitat conditions, the maintenance of diverse and abundant populations of native aquatic organisms and sportfish, increased recreational use, and increased public appreciation for the stream resources. Additional fish population samples will be collected and appropriate habitat surveys will be conducted. Fishing regulations will be revised, as needed, and limited stocking will be used to maintain and improve sportfishing. Access will be improved, where needed. Cooperative efforts with other resource agencies on water quality and quantity, habitat, and watershed management issues will be critical. Enforcement of existing water quality and other stream related regulations and necessary revisions and additions to these regulations

will help reduce violations and lead to further promote public awareness and incentive programs and cooperating with citizen groups and landowners will result in improved watershed conditions and better stream quality.